

## SEQUENCE LISTING

## (1) GENERAL INFORMATION:

5 (i) APPLICANT: Helgeson, John P.  
Austin, Sandra  
Naess, Sara K.

10 (ii) TITLE OF THE INVENTION: GERMPLASM AND MOLECULAR  
MARKERS FOR DISEASE RESISTANCE IN POTATO

(iii) NUMBER OF SEQUENCES: 5

15 (iv) CORRESPONDENCE ADDRESS:  
(A) ADDRESSEE: Dann, Dorfman, Herrell & Skillman  
(B) STREET: 1601 Market Street, Suite 720  
(C) CITY: Philadelphia  
(D) STATE: PA  
(E) COUNTRY: USA  
20 (F) ZIP: 19103

(v) COMPUTER READABLE FORM:  
(A) MEDIUM TYPE: Diskette  
(B) COMPUTER: IBM Compatible  
25 (C) OPERATING SYSTEM: DOS  
(D) SOFTWARE: FastSEQ Version 1.5

(vi) CURRENT APPLICATION DATA:  
(A) APPLICATION NUMBER: Not yet assigned  
30 (B) FILING DATE: 27-JUL-1998

(vii) PRIOR APPLICATION DATA:  
(A) APPLICATION NUMBER: US 60/054,267  
(B) FILING DATE: 30-JUL-1997  
35

(viii) ATTORNEY/AGENT INFORMATION:  
(A) NAME: Janet E. Reed  
(B) REGISTRATION NUMBER: 36,252  
(C) REFERENCE/DOCKET NUMBER: P98003WO  
40

(ix) TELECOMMUNICATION INFORMATION:  
(A) TELEPHONE: 215-563-4100  
(B) TELEFAX: 215-563-4044

45 (2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 586 base pairs  
(B) TYPE: nucleic acid  
50 (C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA  
(iii) HYPOTHETICAL: NO  
55 (iv) ANTISENSE: NO  
(v) FRAGMENT TYPE:  
(vi) ORIGINAL SOURCE: Solanum bulbocastanum

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

	GGCACTGAGG	GGTAGTAAGC	CTCCTGCATG	TACTAAGTAT	GGTAGATCCA	CTCAGGGTTG	60
	TGCCATGATG	GCTTAACTGG	TTGTTTCAAG	TATGGCCAGA	ACGGTTATTT	TATGAGAGAG	120
5	TTTCCAAAGA	ACATGCAGGG	TAATGGTAAT	GGGGATAATA	GAACCCAGTC	TTCTTCAGTG	180
	ACTCCACCAG	ACAGAGCTGC	ATCTAGAGGA	GCTACTTCGA	GGCAGGCGGA	GGATCGAACC	240
	TCTTTATGCT	ATCACTAGTC	GCCAAGAGAA	AGAGGATTCG	CCAGATGTTG	TCACTGGTAT	300
	GATCCAAGTC	TTTAACTTTG	ATTTTATACT	TTTCTAGATC	CAGGAGCGAG	TTTATCCTTT	360
	GTAACCTCCT	ATGTTGCGGT	TAATTTTGAT	GTTCTTCCTA	AGAACTTAT	TGAGCCCTTC	420
10	AGTGTTTCTA	CACTTGTTGG	TCTATTATAG	TAGAGAGAGT	CTGTTATGAT	TGTACCGTTT	480
	TCGTCAATCA	CAAGAGCACC	ATGGTTGATT	TAGTTGAGTT	AGACATGGTA	GAATTTGATG	540
	TTATTCTTGG	TATGGACTGA	CTTCATTCTT	GTTATGCCTC	AGTGCC		586

## (2) INFORMATION FOR SEQ ID NO:2:

15

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 587 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

20

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTISENSE: NO

25

(v) FRAGMENT TYPE:

(vi) ORIGINAL SOURCE: Solanum bulbocastanum

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

30	GTGGTCCGCA	TATAACTCAA	GAAGTTGTAA	TGCATGTATC	GGATATATGT	ATACATGTTG	60
	TCTTTTGCAA	AGTTTACTTT	TTTATTANTT	AATCTTGTTT	GTGCTCTGGAG	GTGGTGGTGG	120
	GGTGGGATAG	TGGTGAAGCT	AGAAATTTAG	TTAAGTGTGT	TCAAGATTTA	AATATACATA	180
	TGAAAAATAA	TTTTTGATCT	ATATATATAG	TTATAATTTT	NTGATGAAGG	TAGTTCAACT	240
	GACCAACCGT	NACTACATGT	GGCTACCGTA	CTGGGTGGGG	TGGAAGGTCN	TGGTGTTTAC	300
35	AGTGATGTGG	GGGCCTCTGA	AATGCTTTTG	TGGGCAATGT	GGGAATTACT	GTTTATCTTT	360
	TCTTTATTGA	AGTCATTGAG	TGTTTGAGTT	ATTTAACTAT	GAAAGGTAGC	TAGTGGGTAA	420
	TGTTATTGAT	GACTTTGTGT	GAAGAACAAA	ATGTCAATCA	TTCAAGACGT	TCAATGGGGG	480
	CACGTGCTGG	AGTCCCATT	GGATTATTGG	GTTTAGGGGT	TGCCTAGGTG	GTGGTGGTGG	540
40	TGGTTGGTAA	TGGATAATAA	TGTTGGTGAA	ATATGGGTGC	GGAGGAG		587

## (2) INFORMATION FOR SEQ ID NO:3:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 596 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTISENSE: NO

(v) FRAGMENT TYPE:

(vi) ORIGINAL SOURCE: tomato

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

55	GTTGGGCAGA	AGAGCTAGGA	AGAGTAAGCA	TGTCAAGTGA	TAGTTGCAGC	CACTGGTGT	60
	ATAGTTGTAG	ACAACCCGTG	AATCTCAGGA	GACAAAATGA	TGTTTGCCCC	AATTGCGGTG	120
	GTGGATTGT	TCAAGAGCTT	GAAGACATAA	CGAGTAGTAG	TGTAGATAAT	CAGACCCAGA	180
60	GGCCGAGATT	CATGGAATCC	GTCTCAAAC	TTTTAAGACG	ACAAATCTCA	GCTACAAGTA	240
	ATACTTCTGA	GAGAGGGAGA	TCTGATGGGG	GTGCTGAACG	AGGAAATTTG	TGGAATCCGT	300

TGCTGATTTT CAGTGGTGAT ACGCCTGTTC ATATGCCTGG GGATGGTGGA GTTTTGGAGT 360  
 TTCTTAATGA GGCACCTTGG ATTCCGAGCA AGAAAATGGT GGTGATTATT TTGTTGGTCC 420  
 AGGAGTGGAG GAATTTTTTG AAGAAATTGT AAATAGAAAT CAGCGTGGTG CTCCTCCTCC 480  
 TGTCTCGAGA TGTTCAATTG ATTCCCTACC AACAGTCAAG ATATCAAAAA AGGATGTTAG 540  
 5 ATCGGATTCG CACTGCCCTG TTTGTAAGGA GAAATTTGCT CTGGGGACTA AGGCAA 596

## (2) INFORMATION FOR SEQ ID NO:4:

- 10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 589 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear  
 15 (ii) MOLECULE TYPE: cDNA  
 (iii) HYPOTHETICAL: NO  
 (iv) ANTISENSE: NO  
 (v) FRAGMENT TYPE:  
 (vi) ORIGINAL SOURCE: Solanum tuberosum

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

GTTGGGCAGA AGAGCTAGGA AGAGTAAGCA TGTCAAGTGA CAGTTGCAGC CACTGGTGTT 60  
 ATAGTTGTAG ACAACCCGTG AATCTCAGGA GACAAAATGA TGTTTGCCCC AATTGCAGTG 120  
 25 GTGGATTTGT TCAAGAGCTT GAAGACATAA CGAGTAGTAG TGTAAGATAAT CAGAGCCAGA 180  
 GCGCCGAGATT TATGGAATCC GTCTCAAAC TTTTAAGACG ACAAATCGCT ACAAGTAATA 240  
 CTTCTGAGAG AGGGAGATCT GATGGGGGTG CTGAACGAGG AAATTTATGG AATCCATTGC 300  
 TGATTTTCAG TGGTGATACG CCTGTTCAAG ATGCCTGGGG ATGGTGGAGT TTTGGAGTTT 360  
 CTTAATGAGG CTCTTGGCTT CCGACAAGAA AATGGTGGTG ATTATTTTGT TGGTCCAGGA 420  
 30 GTGGAGGAAT TTTTGAAGA AATTGTAAAT AGAAATCAGC GTGGTGCTCC TCCTGCCTCA 480  
 AGATGTTCAA TTGATTCCCT ACCAACAGTC AAGATATCGA AAAAAGATGT TAGATCGGAT 540  
 TCTCACTGCC CTGTTTGTAAGAGAAATTT GCTCTGGGGA CTAAGGCAA 589

## (2) INFORMATION FOR SEQ ID NO:5:

- 35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 592 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 40 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: cDNA  
 (iii) HYPOTHETICAL: NO  
 (iv) ANTISENSE: NO  
 45 (v) FRAGMENT TYPE:  
 (vi) ORIGINAL SOURCE: Solanum bulbocastanum

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GTTGGGCAGA AGAGCTAGGA AGAGTAAGCA TGTCAAGTGA CAGTTGCAGC CACTGGTGTT 60  
 ATAGTTGTAG ACAACCCGTG AATCTCAGCA GACAAAATGA TGTTTGCCCC AATTGCGGTG 120  
 GTGGATTTGT TCAAGAGCTT GAAGACATAA CGAGTAGTAG TGTAAGATAAT CAGAGCCAGA 180  
 GCGCCGAGATT CATGGAATCC GTCTCAAAC TTTTAAGACG ACAAATCCCA ACTACAAGTA 240  
 55 ATACTTCTTG AGAGAGGGAG ATCTGATGGG GGTGCTGAAC GAGGAAATTT GTGGAATCCG 300  
 TTGCTGATTT TCAGTGGTGA TACACCTGTT CGGATGCCTG GGGATGGTGG AGTTTTGGAG 360  
 TTTCTTAATG AGGCTCTTGG CTTTCGACAA GAAAATGGTG GTGANTATTT TGTGGCCCA 420  
 GGAGTGGAGG AGTTTTTTGA AGAAATTGTA AATAAAATC AGCGTGGTGC TCCTCCTGTC 480  
 TCAAGATGCT CAATTGATTC CCTACCAACA GTCAAGATAT CGAAAAAGGA TGTTAGATCG 540  
 GATTCTCACT GCCCTGTTTG TAAAGAGAAA TTTGCTCTGG GACTAAGGC AA 592